



National Aeronautics and Space Administration

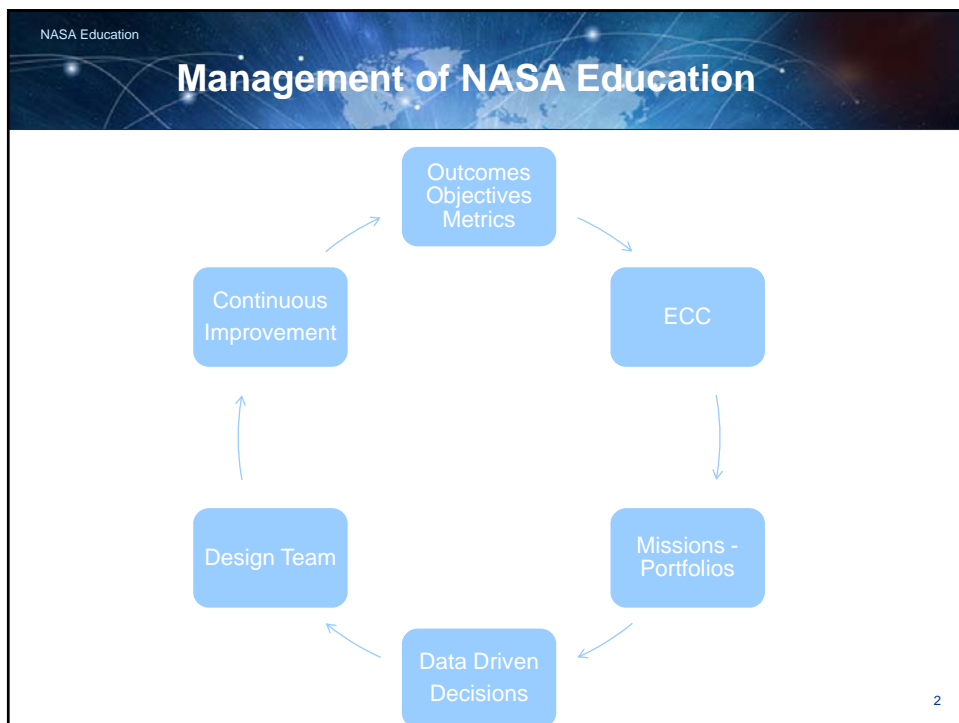


# Education at NASA



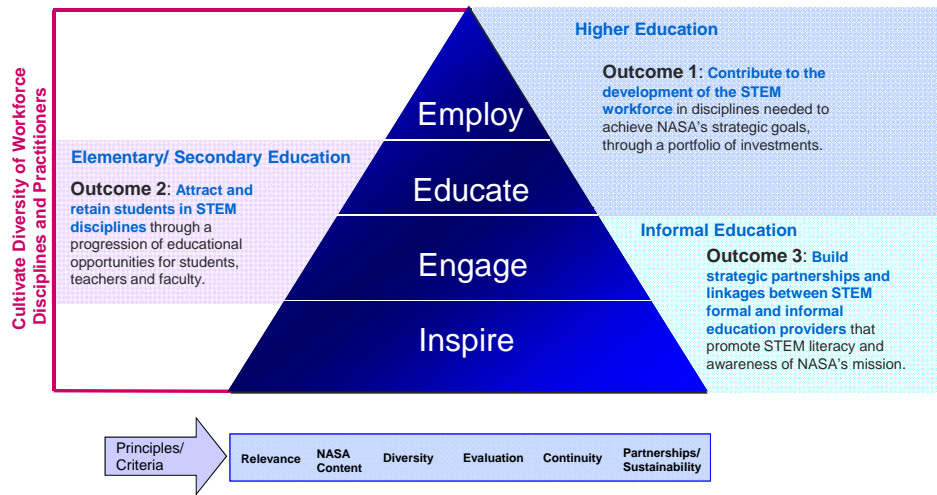
www.nasa.gov

**Dr. Joyce L. Winterton**  
Associate Administrator for Education



## NASA Education Overview

### Strategic Framework



\* Science, Technology, Engineering and Mathematics (STEM)

3

## Outcomes and Objectives

### Outcome 1: Higher Education

Faculty and Research Support  
 Student Support  
 Student Involvement, Higher Education  
 Course Development  
 Targeted Institution Research and Academic Infrastructure

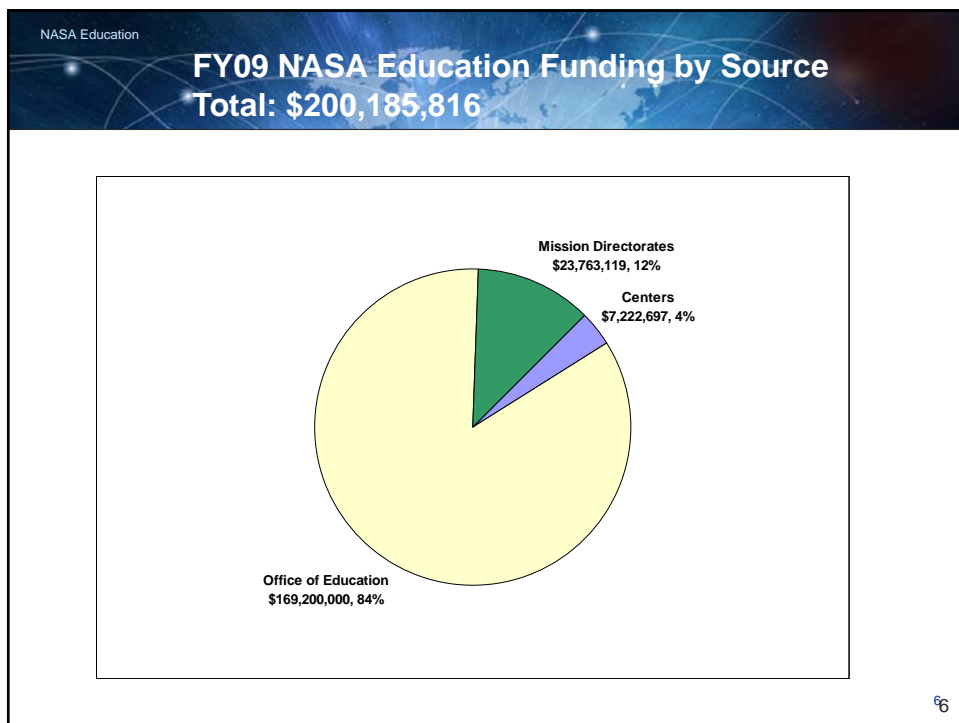
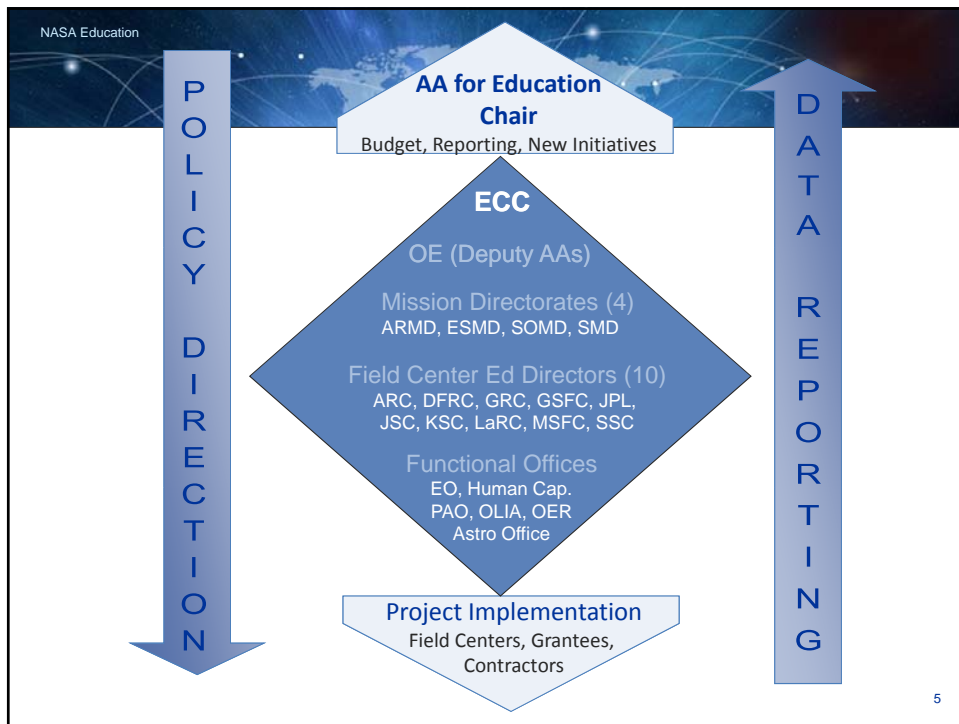
### Outcome 2: Elementary and Secondary Education

Educator Professional Development, Short Duration  
 Educator Professional Development, Long Duration  
 Curricular Support Resources  
 Student Involvement, K-12

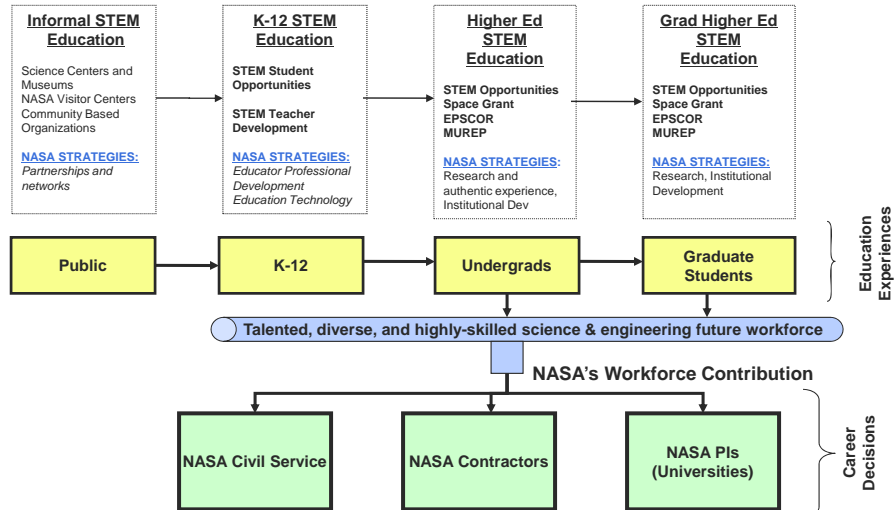
### Outcome 3: Informal Education

Educational Support Resources  
 Professional Development for Informal Education Providers  
 Informal Education Provider Involvement Opportunities

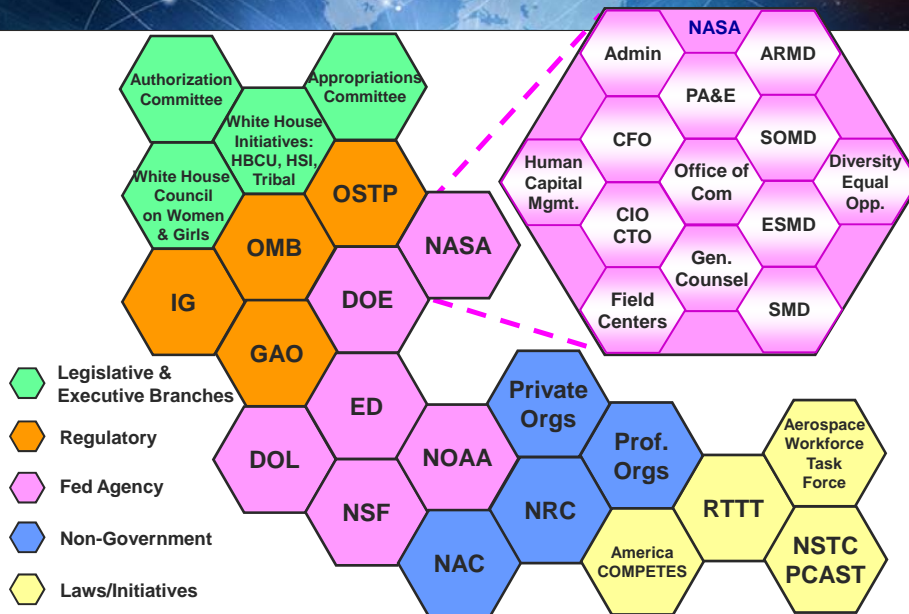
4

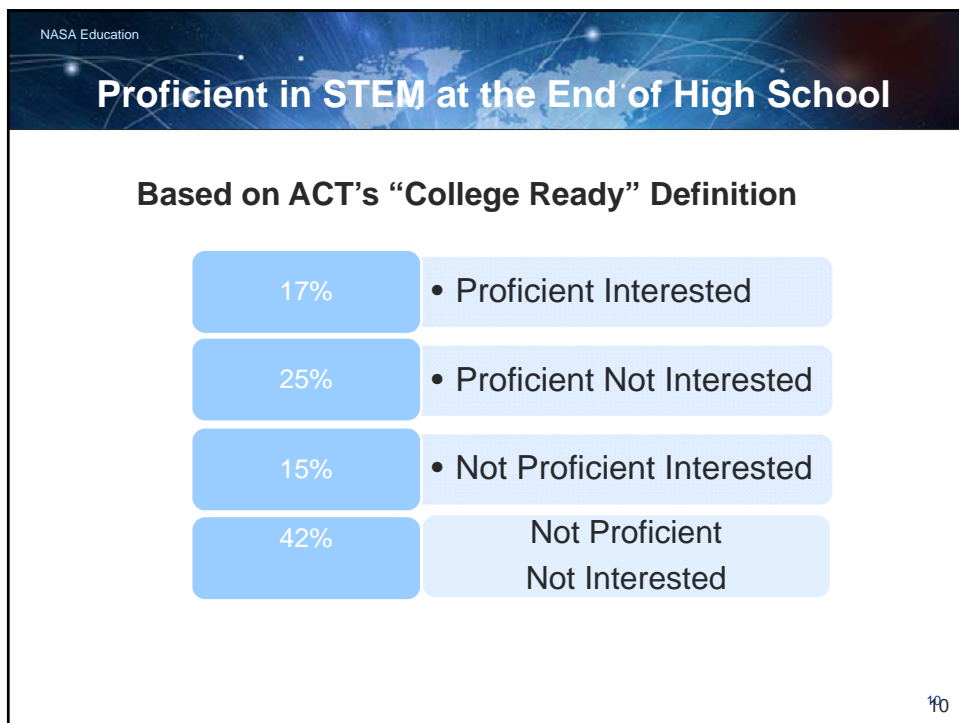
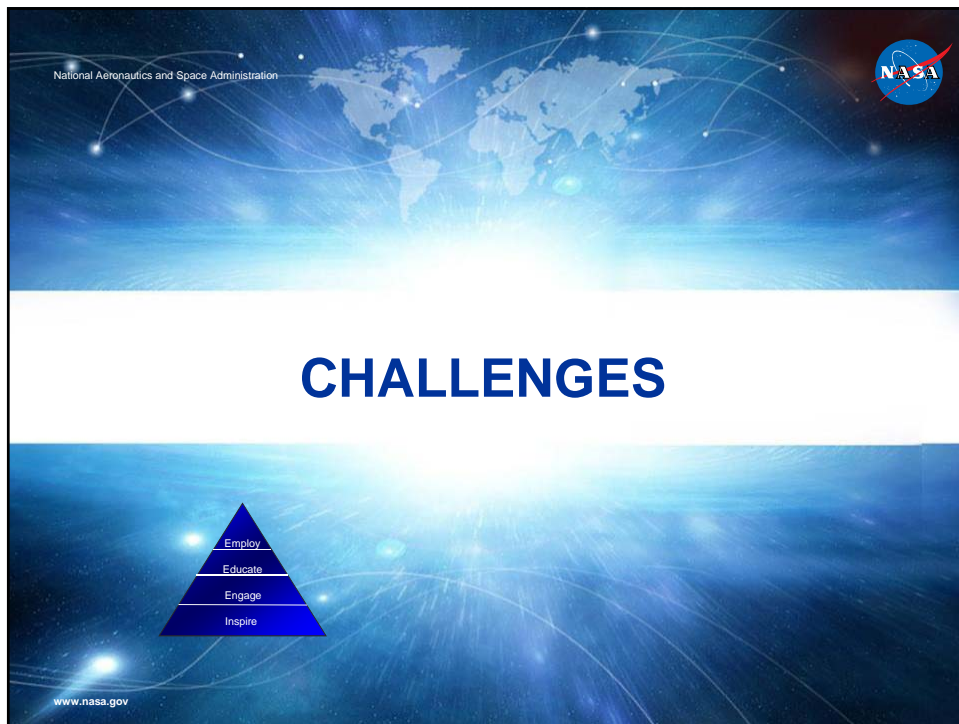


## NASA Education Opportunities



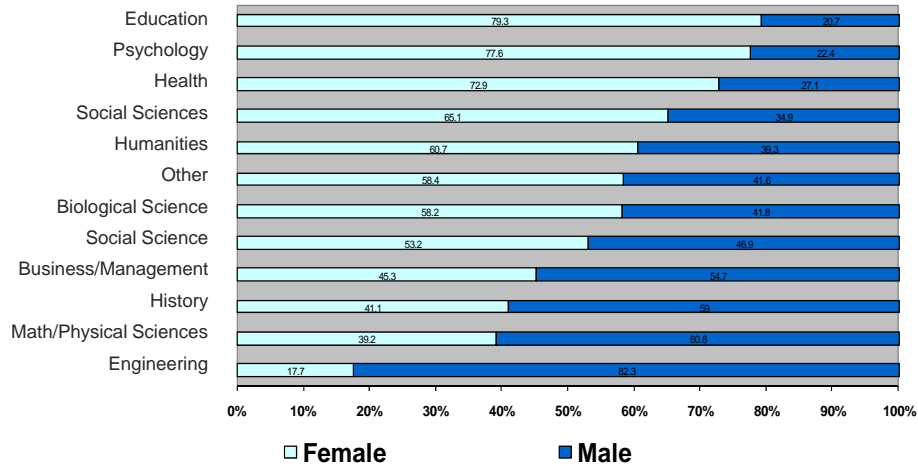
## Key Stakeholders and Influencers





## More Women Need to Enroll in STEM Fields

**Proportion of Women in Selected College Majors  
1999-2000 Bachelor's Degree Recipients**



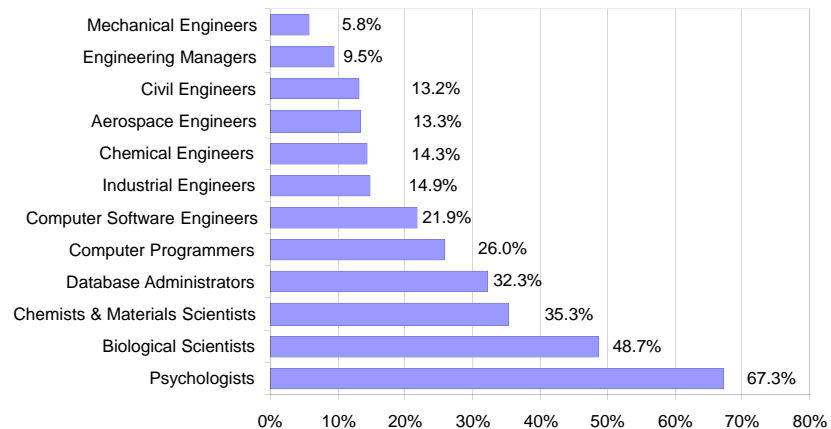
NOTE: Excludes graduates older than 35 at completion of degree.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2001 Baccalaureate and Beyond Longitudinal Study (B&B:01).

11

## So That They Can Get STEM Jobs

**Women as a Proportion of Selected STEM Occupations, 2005**



Source: CPST/Professional Women and Minorities Data derived from U.S. Census Bureau, Current Population Survey

12



## Women and NASA

### Women Employed at NASA

#### 1964

<1% women

GS12 or higher

#### Today

31%

#### 1970's

17%

3%

<1%

Total workforce

S&T NASA workforce

Senior Exec Service

#### Today

35%

22%

25%

### NASA's Higher Education Programs

#### 2004 Nat. Avg.

20.5%

42%

29.1%

Engineering

Physical Sciences

Math and Computer Science

#### 2008

41%

## STS-131 – Education Focus Women in Engineering and Robotics

Dottie Metcalf-Lindenburger

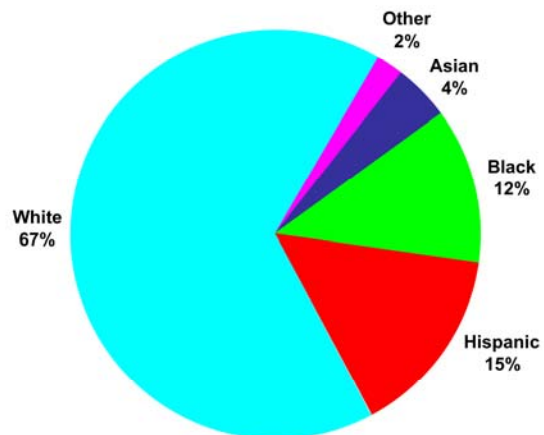


## Educator and Astronauts



15

## Resident population of the United States, by race/ethnicity: 2007

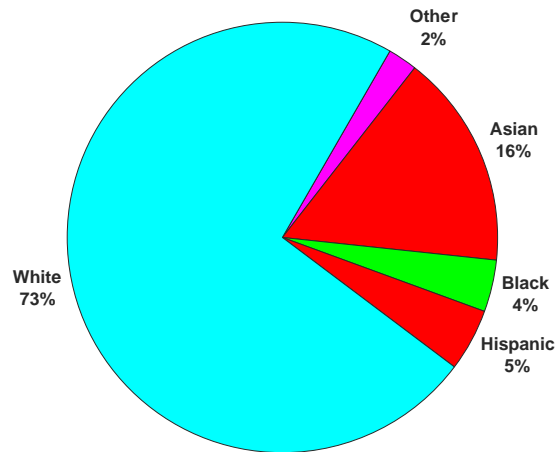


Note: Other includes American Indians/Alaska Natives, Native Hawaiians/other Pacific Islanders and multiple race/ethnicity.  
Source: Bureau of the Census, Current Population Survey, July 2007.

16  
16



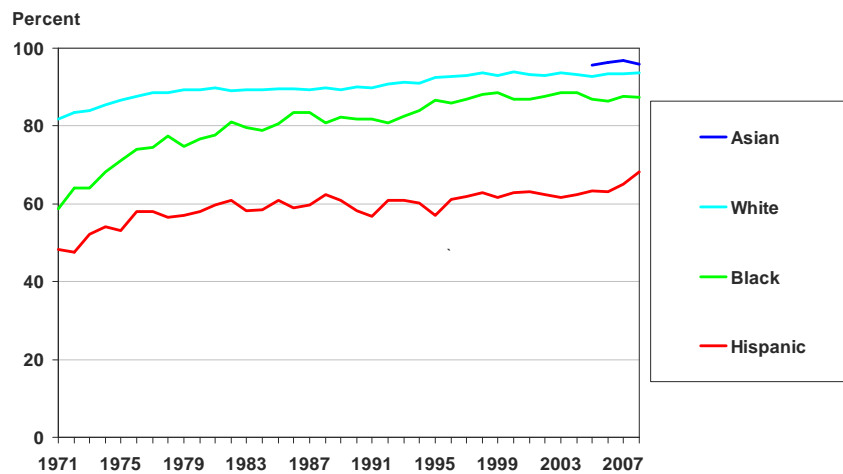
## Employed scientists and engineers, by race/ethnicity: 2006



Note: Other includes American Indians/Alaska Natives, Native Hawaiians/other Pacific Islanders and multiple race/ethnicity.  
Source: National Science Foundation, Scientists and Engineers Statistical Data System, 2006.

17

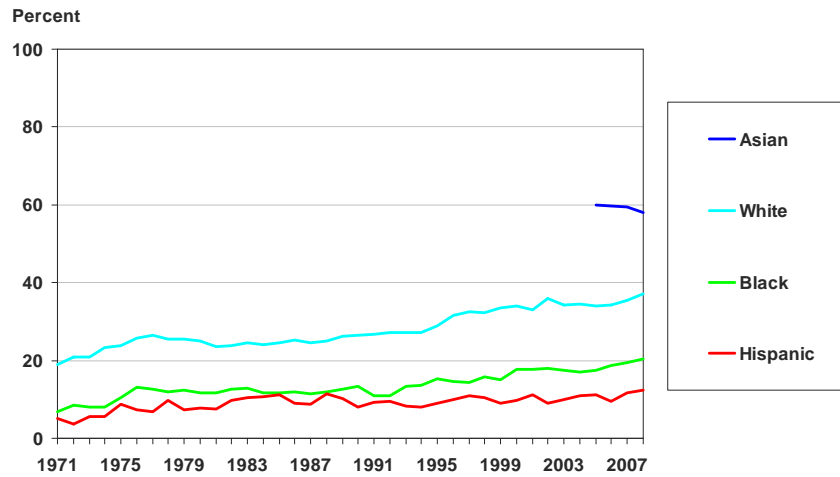
## Percentage of 25- to 29-year-olds who completed high school, by race/ethnicity: March 1971-2008



Source: Bureau of the Census, Current Population Survey, March 1971-2008.

18

## Percentage of 25- to 29-year-olds who completed a bachelor's, by race/ethnicity: March 1971-2008



Source: Bureau of the Census, Current Population Survey, March 1971-2008.



## STRATEGIES



## Your Regional NASA Center



## 2009 Performance and Recent Highlights/Results



**51%** of Higher Education students are employed by NASA, aerospace contractors and education institutions (+27% other STEM)

**83%** of educators in NASA training use resources in the classroom

**44%** of undergraduate students move on to advanced education

**1,483,362** K-12 students engaged

**400+** Museums and Science Centers are actively using NASA content

[HOME](#)
[NEWS](#)
[MISSIONS](#)
[MULTIMEDIA](#)
[ABOUT NASA](#)
[Help and Preferences](#)

[Log In To MyNASA](#) | [Sign Up](#)

[For Public](#) | [For Educators](#) | [For Students](#) | [For Media](#) | [For Policymakers](#) | [For Employees](#) | [MyNASA](#)

### For Educators

- Grades K-4
- Grades 5-8
- Grades 9-12
- Higher Education
- Informal Education
- Find Teaching Materials
- Education TV Schedule

### Office of Education

Find contact and program information from NASA's Office of Education Web site.

[Education](#)

### NASA for Students

Go to the Students section of [www.nasa.gov](http://www.nasa.gov).

[Students](#)

### NASA eClips

Video highlighting current research and innovations along with lesson plans that can be used in the classroom.

[View site](#)

### NASA Podcasts

Check out the podcasts available from NASA.

[Podcasts](#)

### Educator Features and Articles

#### International Space Station 2009 Calendar

**12.16.08**  
To celebrate the 10th anniversary of the space station, NASA is offering a 2009 calendar that contains photographs taken from the space station and highlights historic NASA milestones and fun facts.

[View](#)

#### Butterflies and Spiders in Space

#### The Humans Behind Hubble

[View Archive](#)

### Find Teaching Materials

#### Looking for Classroom Materials?

NASA's Education Materials Finder will help teachers locate resources that can be used in the classroom. Users may search by keywords, grade level, product type and subject. With hundreds of publications and Web sites indexed, the finder is the best way to locate NASA educational resources.

[Find Materials Now](#)

### Education Calendar

January 2009						
				01	02	03
04	05	06	07	08	09	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

### A to Z Index

#### Education Programs

[EXPRESS Email Signup](#)

[Worldbook@NASA](#)

### NASA Television

### Education News

**12.31.08**  
NASA Kicks Off 2009 First Robotics Season With Live Broadcast

**12.30.08**  
High School Robotics Competition Kicks Off on Jan. 3

**NASA KIDS' CLUB**  
Play Fun Games

## Utilizing Technology to Expand the Reach

**Interactive Resources Include Collaboration Tools with NASA Experts, Virtual Worlds to Simulate Space Travel, and Online Remote Controls to Scientific Instruments**

Webcasts

DLN

Virtual  
Ambassadors

Second Life

Virtual  
Gaming

25

## What Are the Key Messages for NASA Education ?

**Goal: Reach the targeted audience with the message that works.....**

**Where and When?**

**Examples:**

**NASA's educational opportunities and what they lead to.**

**Hard work brings personal rewards and achievement.**

**NASA's significance to the Nation and the World.**

26



NASA Education

## First Steps to a STEM Career

